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AGRICULTURAL MEMORANDUM No 398

Heavy rains and field drainage 4. SOUTHEAST

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The following stations were examined:-

31	Shoeburyness (516 mm)	43	Hastings (739 mm)
41	Kew (608 mm)	44	Andover (750 mm)
22	Oxford (652 mm)	45	Edenbridge (817 mm)
42	E Malling (683 mm)	46	Compton House (963 mm)

As mentioned previously, Shoeburyness in south Essex fits quite well into the pattern for the southeast. Oxford, originally considered in the Midland area, also fits reasonably well, suggesting that it lies on the border between the two major zones.

Hastings appears to give a large sample in the 1951-1960 period.

The data are given in:-

Table 4A	Total occasions in 10 years
Table 4B	Occasions in 10 years when soil was below capacity
Table 4C	Occasions in 10 years when soil was at capacity

The smoothed values for soil at capacity are given in:

Table 4D	Occasions in 10 years	50 mm or more	1-8 days	500-1000 mm
Table 4E	Occasions in 10 years	75 mm or more	1-8 days	500-1000 mm
Table 4F	Occasions in 10 years	100 mm or more	1-8 days	500-1000 mm
Table 4G	Occasions in 10 years in individual categories of days and rainfall			

Any comments or suggestions on this paper should be referred to the author.

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TABLE 4A Total occasions in 10 years (a) 50-75 mm (b) 75-100 mm (c) Over 100 mm

	Site	Annual Average		Period of Days 1	2	3	4	5	6	7	8 days or less
31.	Shoeburyness (Essex)	516	(a)	1	2	2	3	11	21	34	48
			(b)	0	0	1	2	3	4	7	12
			(c)	0	0	0	0	0	0	0	0
			TOTAL	1	2	3	5	14	25	41	60
41.	Kew (Surrey)	608	(a)	2	4	7	11	17	24	39	54
			(b)	0	0	0	0	1	3	5	9
			(c)	0	0	0	0	0	0	0	0
			TOTAL	2	4	7	11	18	27	44	63
22.	Oxford	652	(a)	1	2	3	9	20	41	63	99
			(b)	2	4	6	8	11	14	19	26
			(c)	0	0	0	0	0	0	0	1
			TOTAL	3	6	9	17	31	55	82	126
42.	E. Malling (Kent)	683	(a)	1	2	3	8	18	35	64	105
			(b)	0	1	2	3	5	7	10	13
			(c)	0	0	0	0	0	0	0	1
			TOTAL	1	3	5	11	23	42	74	119
43.	Hastings (Sussex)	739	(a)	0	7	20	42	67	105	150	196
			(b)	0	0	1	4	11	17	21	37
			(c)	0	0	0	0	0	1	4	6
			TOTAL	0	7	21	46	78	123	175	239
44.	Andover (Hants.)	750	(a)	1	4	11	29	46	85	127	162
			(b)	0	0	1	3	9	12	19	29
			(c)	0	0	0	0	0	2	4	8
			TOTAL	1	4	12	32	55	99	150	199
45.	Edenbridge (Kent)	817	(a)	3	12	18	41	71	117	154	195
			(b)	0	0	3	6	12	20	30	44
			(c)	0	0	0	0	1	2	6	10
			TOTAL	3	12	21	47	84	139	190	249
46.	Compton House (Sussex)	963	(a)	3	13	47	93	152	205	258	336
			(b)	0	0	1	6	7	29	67	102
			(c)	0	0	0	0	3	4	6	12
			TOTAL	3	13	48	99	162	238	331	450

TABLE 4B Soil below Capacity (a) 50-75 mm (b) 75-100 mm (c) Over 100 mm

Site	Annual Average		Period of Days 1	2	3	4	5	6	7	8 days or less
Shoeburyness	516	(a)	1	2	2	2	6	15	26	38
		(b)	0	0	1	2	3	4	6	8
		(c)	0	0	0	0	0	0	0	0
		TOTAL	1	2	3	4	9	19	32	46
Kew	609	(a)	2	4	6	9	13	16	26	35
		(b)	0	0	0	0	1	3	5	9
		(c)	0	0	0	0	0	0	0	0
		TOTAL	2	4	6	9	14	19	31	44
Oxford	652	(a)	1	2	3	7	11	17	21	35
		(b)	2	4	6	8	11	14	19	23
		(c)	0	0	0	0	0	0	0	1
		TOTAL	3	6	9	15	22	31	40	59
E Malling	683	(a)	1	2	3	4	7	15	30	45
		(b)	0	1	2	3	4	5	6	7
		(c)	0	0	0	0	0	0	0	0
		TOTAL	1	3	5	7	11	20	36	52
Hastings	739	(a)	0	4	7	13	19	29	38	46
		(b)	0	0	1	2	4	5	6	9
		(c)	0	0	0	0	0	0	1	2
		TOTAL	0	4	8	15	23	34	45	57
Andover	750	(a)	0	1	2	3	8	22	38	57
		(b)	0	0	0	0	0	0	0	1
		(c)	0	0	0	0	0	0	0	0
		TOTAL	0	1	2	3	8	22	38	58
Edenbridge	817	(a)	1	4	7	12	20	31	41	51
		(b)	0	0	0	0	0	0	1	2
		(c)	0	0	0	0	0	0	0	0
		TOTAL	1	4	7	12	20	31	42	53
Compton House	963	(a)	2	7	14	26	41	56	67	96
		(b)	0	0	0	0	0	2	11	17
		(c)	0	0	0	0	0	0	0	0
		TOTAL	2	7	14	26	41	58	78	113

TABLE 4C Soil at Capacity (a) 50-75 mm (b) 75-100 mm (c) Over 100 mm

Site	Annual Average		Period of Days 1	2	3	4	5	6	7	8 days or less
Shoeburyness	516	(a)	0	0	0	1	5	6	8	10
		(b)	0	0	0	0	0	0	1	4
		(c)	0	0	0	0	0	0	0	0
		TOTAL	0	0	0	1	5	6	9	14
Kew	608	(a)	0	0	1	2	4	8	13	19
		(b)	0	0	0	0	0	0	0	0
		(c)	0	0	0	0	0	0	0	0
		TOTAL	0	0	1	2	4	8	13	19
Oxford	652	(a)	0	0	0	2	9	24	42	64
		(b)	0	0	0	0	0	0	0	3
		(c)	0	0	0	0	0	0	0	0
		TOTAL	0	0	0	2	9	24	42	67
E Malling	683	(a)	0	0	0	4	11	20	34	60
		(b)	0	0	0	0	1	2	4	6
		(c)	0	0	0	0	0	0	0	1
		TOTAL	0	0	0	4	12	22	38	67
Hastings	739	(a)	0	3	13	29	48	76	112	150
		(b)	0	0	0	2	7	12	15	28
		(c)	0	0	0	0	0	1	3	4
		TOTAL	0	3	13	31	55	89	130	182
Andover	750	(a)	1	3	9	26	38	63	89	105
		(b)	0	0	1	3	9	12	19	28
		(c)	0	0	0	0	0	2	4	8
		TOTAL	1	3	10	29	47	77	112	141
Edenbridge	817	(a)	2	8	11	29	51	86	113	144
		(b)	0	0	3	6	12	20	29	42
		(c)	0	0	0	0	1	2	6	10
		TOTAL	2	8	14	35	64	108	148	196
Compton House	963	(a)	1	6	33	67	111	149	191	240
		(b)	0	0	1	6	7	27	56	85
		(c)	0	0	0	0	3	4	6	12
		TOTAL	1	6	34	73	121	180	253	337

TABLE 4D SOUTHEAST 50 mm or more Occasions in 10 years Soil at Capacity

Annual Average	1	2	3	4	5	6	7	8 days or less
500	0	0	0	1	2	4	6	10
550	0	0	0	1	3	6	10	15
600	0	0	1	3	5	8	16	25
650	0	0	2	6	11	19	30	50
700	0	1	4	11	21	38	60	85
750	0	2	8	19	38	65	95	135
800	1	4	13	31	58	90	130	185
850	1	7	19	44	79	120	170	235
900	2	10	25	58	100	150	210	285
950	3	14	32	72	122	180	250	335
1000	5	20	40	88	145	215	290	385

TABLE 4E SOUTHEAST 75 mm or more Occasions in 10 years Soil at Capacity

Annual Average	1	2	3	4	5	6	7	8 days or less
500	0	0	0	0	0	0	0	3
550	0	0	0	0	0	0	2	4
600	0	0	0	0	0	1	4	7
650	0	0	0	0	1	3	6	12
700	0	0	0	1	3	6	12	20
750	0	0	1	2	5	10	20	35
800	0	0	1	3	7	16	30	50
850	0	0	2	4	9	23	40	62
900	0	1	2	5	12	31	50	75
950	0	1	3	7	15	38	62	86
1000	1	2	4	9	18	45	75	110

TABLE 4F SOUTHEAST 100 mm or more Occasions in 10 years Soil at Capacity

Annual Average	1	2	3	4	5	6	7	8 days or less
500	0	0	0	0	0	0	0	0
550	0	0	0	0	0	0	0	0
600	0	0	0	0	0	0	0	1
650	0	0	0	0	0	0	0	2
700	0	0	0	0	0	0	1	3
750	0	0	0	0	0	1	2	5
800	0	0	0	0	0	1	3	7
850	0	0	0	0	1	2	4	9
900	0	0	0	0	1	2	5	11
950	0	0	0	1	2	3	6	13
1000	0	0	0	1	2	4	7	15

TABLE 4G SOUTHEAST Occasions in 10 years (a) 50-75 mm (b) 75-100 mm
Soil at Capacity (c) Over 100 mm

Annual Average		Period 1	2	3	4	5	6	7	8	days but not less
500	(a)	0	0	0	1	1	2	2	1	
	(b)	0	0	0	0	0	0	0	3	
	(c)	0	0	0	0	0	0	0	0	
	TOTAL	0	0	0	1	1	2	2	4	10
550	(a)	0	0	0	1	2	3	2	3	
	(b)	0	0	0	0	0	0	2	2	
	(c)	0	0	0	0	0	0	0	0	
	TOTAL	0	0	0	1	2	3	4	5	15
600	(a)	0	0	1	2	2	2	5	6	
	(b)	0	0	0	0	0	1	3	2	
	(c)	0	0	0	0	0	0	0	1	
	TOTAL	0	0	1	2	2	3	8	9	25
650	(a)	0	0	2	4	4	6	8	14	
	(b)	0	0	0	0	1	2	3	4	
	(c)	0	0	0	0	0	0	0	2	
	TOAL	0	0	2	4	5	8	11	20	50
700	(a)	0	1	3	6	8	14	16	17	
	(b)	0	0	0	1	2	3	5	6	
	(c)	0	0	0	0	0	0	1	2	
	TOTAL	0	1	3	7	10	17	22	25	85
750	(a)	0	2	5	10	16	22	20	25	
	(b)	0	0	1	1	3	4	9	12	
	(c)	0	0	0	0	0	1	1	3	
	TOTAL	0	2	6	11	19	27	30	40	135
800	(a)	1	3	8	16	23	23	26	35	
	(b)	0	0	1	2	4	8	12	16	
	(c)	0	0	0	0	0	1	2	4	
	TOTAL	1	3	9	18	27	32	40	55	185
850	(a)	1	6	10	23	30	27	33	43	
	(b)	0	0	2	2	4	13	15	17	
	(c)	0	0	0	0	1	1	2	5	
	TOTAL	1	6	12	25	35	41	59	65	235
900	(a)	2	7	14	30	35	31	41	50	
	(b)	0	1	1	3	6	18	16	19	
	(c)	0	0	0	0	1	1	3	6	
	TOTAL	2	8	15	33	42	50	60	75	285
950	(a)	3	10	16	36	42	35	46	61	
	(b)	0	1	2	3	7	22	21	17	
	(c)	0	0	0	1	1	1	3	7	
	TOTAL	3	11	18	40	50	58	70	85	335
1000	(a)	4	14	18	43	48	43	45	60	
	(b)	1	1	2	4	7	26	27	27	
	(c)	0	0	0	1	1	2	3	8	
	TOTAL	5	15	20	48	56	71	75	95	385